

# News Reel

Waterville Area Fisheries Newsletter

Fall 2021

## Billy Vue - DNR Intern and First Generation Student

My name is Billy Vue and I am a summer intern at the Minnesota DNR in Waterville. As a first-generation Hmong student, I am often reminded of my history of migration, genocide, and assimilation. The Hmong people are a small ethnic group that originated from Southeast Asia with no designated country. I have felt a great amount of pressure as a first generation student to uphold my culture on top of paving paths in a new land, a common experience many others face as well. Being allowed to represent and work in my role as the fisheries intern for the Minnesota DNR has allowed me to gain an array of experience and skills that alleviate pressures I experience. With my heritage and time at the Minnesota DNR, I have had the opportunity to find ways to bridge these two parts of my life. In addition to my position as an intern with the MNDNR, I am also a student who currently attends the University of Wisconsin River-Falls. In the future, I plan to use the education, skills and experiences that I have gained to apply them in a Minnesota DNR fish and wildlife position.

### Community Roots

My passion for fishing began within my Hmong community. Fishing in the Hmong community can be rooted back to Laos, where we lived a hunters and gatherers lifestyle. The main sources of income for Hmong people were either farming or hunting. Therefore, these were embedded into our livelihood outside of making income as well. Through generations, our means of living shifted

to hobbies. This is now widely seen within my generation and those after. Common experiences that Hmong families can relate to are fishing trips with their families or even riding a bike to the lake nearby to catch panfish. In my fishing experiences, I have found it to be one of the most enjoyable hobbies that have strong connections to my heritage. Nonetheless, I would like to continue expanding this hobby into my future education and work.

### DNR Experience

Throughout my time with the DNR, some of the things that I performed were identifying fish species for Index

surveys consist of pulling a 50 ft seine and backpack shocking the shore. Doing so allowed us to scoop up the smaller fishes to identify, count and record. The lake survey work consisted of placing trap nets along the shore and setting gill nets in deeper water. This type of survey would offer us the ability to take structures and length from the fish caught. Structures taken from fish include scales, otolith, cleithrum, and clipped dorsal fins. Later on, these structures will be used to read and tell the age of individual fish.

### Giving Back

As my internship nears its end, I've taken some time to reflect on the many experiences that I have encountered this summer. This internship has solidified my considerations of working with the MN DNR in the future. The work that I performed this summer is something that I want to continue doing in my career. I enjoy working with fish and learning more about the different species and habitats there are in the lakes of Minnesota. I also believe that working with the DNR in the future will allow me, as a person of color, to give back to my community and fellow anglers in various ways. This would open doors for other ethnic people to learn more about the DNR itself and to see where and how their contributions might fit into continuing to keep Minnesota's fishing opportunity as some of the best in the country.

*-Billy Vue, fisheries intern 2021*



*DNR Intern Billy Vue.*

of Biotic Integrity surveys, conducting lake surveys, boat electrofishing, hatchery work, caring for fish. The IBI

# Freeborn Lake - Shallow Lake Success Story

Freeborn Lake is a 2,222-acre lake located south of the city of Freeborn and near the headwaters to the Cobb River watershed. Freeborn Lake has about 16 miles of shoreline that support a mixture of residential areas, agriculture, park and conservation lands, forests, wetlands, public right-of-way, and a golf course. There are a total of three public accesses on the lake including the City of Freeborn pier on the north shoreline, Arrowhead County Park on the east shoreline, and a primitive DNR State Water Access on the southeast shoreline. Although Freeborn Lake is relatively large in area it is shallow with a maximum depth of only 7.0 feet, and an average depth of just 3.5 feet.

## Management Issues

The shallow nature of Freeborn Lake has created a challenging situation to manage from a natural resources perspective. A positive is that the watershed is relatively small for such a large lake with about 3.5 acres of watershed for every acre of lake. Lakes with a small watershed to lake ratio often can overcome some of the challenges of an altered watershed. Yet, shallow lakes are extra sensitive to pollution. Extensive nutrient loading over the years has led to those nutrients being trapped in the lake sediments and continuously mixed and re-suspended by rough fish, wind, and waves in the expansive and open shallow waters. The situation was made worse by the dam which allowed Common Carp access to the lake, but acted as a barrier to fish such as Northern Pike. The end result was highly degraded lake habitat conditions. Freeborn Lake was trapped in a 'turbid state' dominated by algal blooms, very poor water quality, and with sparse aquatic vegetation that could naturally offset such conditions.

## Unrealized potential

The fish population within Freeborn Lake also suffered due to the poor habitat conditions. The predominate fish species have been Common Carp, Black Bullhead, Fathead Minnow, Green Sunfish, and Yellow Perch. There were occasionally years where Yellow Perch angling was good, usually following winterkill or drought events that 'reset' the lake and resulted in short term habitat improvements. The DNR attempted stocking the lake for years to establish Walleye and Northern Pike to offer anglers opportunities and provide some 'top-down' control of rough fish, but these stockings were largely un-



*Clear water and emergent vegetation at Freeborn Lake in July 2021.*

successful. Periodic partial winterkills, which most often eliminated game fish while leaving a void for rough fish to proliferate, resulted in the absence of any 'teeth' in the system to keep rough fish in check. This exasperated the poor habitat conditions, and the cycle continued. The poor water quality and lack of substantial aquatic vegetation also suppressed the potential of Freeborn Lake to support ducks, geese, muskrats, and wildlife viewing. Like angling, hunting/trapping and non-consumptive opportunities suffered and the lake was

not reaching its potential as a natural resource destination.

## Opportunity seized

Efforts were made several times since the 1960s to designate Freeborn Lake for wildlife management, which by state law would enable draw downs, reclamations, and other forms of management to improve habitat conditions; however, designation efforts were not successful. By 2015/2016 the dam at the outlet owned by Freeborn County was failing and needed replacement at a high cost to local tax payers. This proved to be an opportunity to leverage monies within the Outdoor Heritage Fund (which was funded by a tax approved by Minnesotans that partially goes toward protecting, restoring, and enhancing aquatic habitats throughout the state) and to build public consent in support of a lake rehabilitation to improve water quality.

In 2017 after nearly 2 years of public input meetings and planning, a lake water level drawdown was initiated that extended into spring 2019. During this time a high velocity fish culvert was installed downstream of Freeborn Lake. The high velocity fish culvert serves as a fish barrier, preventing rough fish from migrating from the Cobb River back into Freeborn

Lake. In addition, a new variable crest sheet pile outlet structure was installed. This new outlet structure differed from the previous fixed crest dam in that the runout elevation could be varied to allow draw-downs of the lake when needed to better manage for improved habitat conditions. Freeborn Lake was refilled beginning in spring 2019, and the initial rehabilitation was completed.

- *Freeborn Lake Continued on page 3*



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## Fish Stocking

The lake was stocked with Northern Pike fry in the spring of 2018, 2019, and again in 2021. In addition, Yellow Perch adults were stocked into Freeborn Lake in 2019 and allowed to naturally re-populate. The goal of fish management is to stock species tolerant of winterkill, which is the case for Northern Pike and Yellow Perch both of which are naturally adapted to shallow lake conditions. The goal also is to keep rough fish out of the lake. Test netting in spring 2021 indicated Northern Pike and Yellow Perch stockings were successful. Freeborn Lake should offer anglers a great opportunity with a strong population of Northern Pike 24+ inches and some 'jumbo' Yellow Perch present in the lake. Fish management is critical to support improved habitat conditions in Freeborn Lake.

## Current conditions

The current habitat conditions in Freeborn Lake have demonstrated a new found resilience to the poor habitat conditions that were present prior to the rehabilitation. Based on the photos from July 2021, the goal of improved habitat conditions is currently being achieved as Freeborn Lake has the appearance of an Oasis of good water quality and great habitat value! It is not often in southern Minnesota that you can visit a large shallow lake and feel like you are on the shorelines of an undeveloped northern Minnesota pristine lake,

looking into waters that are crystal clear. However, that was precisely the state of Freeborn Lake in summer 2021.



*Northern Pike and Yellow Perch sampled at Freeborn Lake in May 2021.*

## Future

So, you might ask, what is the outlook of Freeborn Lake, what should we expect moving forward? The reality is maintaining such a large and shallow lake that still contains a great deal of nutrient enriched sediments in a clear water state indefinitely is not likely. Rather, the rehabilitation and infrastructure improvements on Freeborn Lake have

put the tools in place to more proactively manage the lake for improved habitat conditions long term. The ultimate goal is one of achieving a 'clear water state' more-often-than-not rather than having persistent poor habitat conditions. The DNR and its partners will continue to work toward making Freeborn Lake the natural resource destination it deserves to be!

## Collaboration

The Freeborn Lake rehabilitation project is a cooperative venture with Freeborn County, Ducks Unlimited, the Minnesota Department of Natural Resources, and many dedicated residents and interested folks from the area that showed up to countless meetings and provided input. These unnamed people deserve a lot of credit in building support of this project. It was through these caring people that Freeborn Lake has been offered new hope for a better future. This project was made possible by Minnesota's Outdoor Heritage Fund, Freeborn County Aquatic Invasive Species funds and a grant recommended by the North American Wetlands Council.

Freeborn County continues to own the dam and fish barrier road culvert. The MNDNR will be responsible for executing the lake aquatic habitat, wildlife, and fisheries management plan with input from a citizens advisory group.

*-Craig Soupir, area supervisor*

## Public Meetings

Waterville Fisheries staff will hold three separate public input meetings regarding proposed sunfish regulations at Lake Washington, Madison Lake, and Shields Lake. Meetings will be open-house style with no formal presentation.

Members of the public are invited to attend and learn more about the proposed regulations and give their input.

**Lake Washington:** September 30th from 7pm to 8pm at the Waterville Area Office 50317 Fish Hatchery Road, Waterville MN.

**Madison Lake:** October 4th from 7pm to 8pm at Bray Park picnic shelter 22214 Oriole Road Madison Lake MN.

**Shields Lake:** October 14th from 6pm to 7pm at Faribault Community Center Peterson Room 15 West Division Street Faribault MN.

If you are unable to attend you can still comment online <https://www.dnr.state.mn.us/fish/sunfish/index.html> or by emailing: [waterville.fisheries@state.mn.us](mailto:waterville.fisheries@state.mn.us)



# What did you catch?

Whether or not it has something to do with auto correct, fisheries managers seem to get many inquiries about stripers. These are certainly not our specialty. Stripers - as in Striped Bass - however are more in our wheelhouse. In Minnesota we do not have "Stripers" but we do have White Bass and we also have some Yellow Bass working their way north. I will help you to discern which species you are catching in this article.

To start, Striped Bass are a native ocean fish that swim upstream in rivers to spawn, similar to Salmon. Stripers can live their entire lives in freshwater however and many states stock them in reservoirs. Striped Bass are an amazing sportfish as they grow large (70lbs) and put up a good fight.

Let's talk a little about identification. Striped Bass:

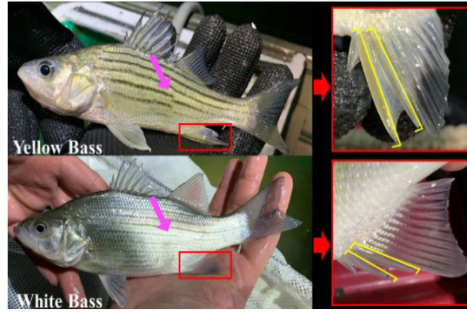
- longer than it is deep (torpedo)
- distinct stripes that go to the tail
- two tooth patches on tongue

White Bass:

- larger height to length ratio, think crap-

pie shaped

- do not grow nearly as large (5lbs)
- stripes not as pronounced
- only one stripe typically makes it to the tail
- spines on the anal fin are different lengths



*Distinguishing features of Yellow Bass (top) and White Bass (bottom). Courtesy of Indiana DNR.*

Many people like to target White Bass as they like to school up and will readily take a lure. Once the fish is on the angler is in for quite a battle. These fish are also very good table fair.



*Striped Bass NOT caught in southern MN.*

Yellow Bass are found in parts of southern Minnesota. Yellow Bass are smaller than White Bass. Typically, they can grow to about 2 pounds. Often times when encountered in southern Minnesota they are similar in size to crappies and Bluegills. When identifying Yellow Bass look for stripes that are broken or segmented above the anal fin. Also they usually have more of a yellow hue than White Bass. The two longest spines on the anal fin of a Yellow Bass are about the same length as each other.

Remember, it is illegal to move fish or eggs from one body of water to another - help stop the spread of invasive species.

*-Tyler Fellows, fisheries specialist*

## Hello, my name is...

In this feature, I will introduce you to a Waterville Area nongame fish species that you have likely never heard of. Although they may not end up in your livewell or mounted on the wall these species deserve some attention for the important roles they play in our local stream and lake ecosystems. You will not hear the term "rough fish" around here!

So, without further ado, please say hello to the Northern Hogsucker. I know what you are thinking and no, that is not a nickname! A moderately sized member

of the sucker family, the Northern Hogsucker grows to maximum length of around 19 inches with most adults falling into the 10-13



*Northern Hogsucker*

inch range. At first glance, you might think it looks like a dirty version of the closely related White Sucker you can buy for pike fishing. Look closer and you will notice the large concave head, protruding lips, and oversized pectoral fins that set the Northern Hogsucker apart. Viewed from above, the brown saddles help camouflage the fish while moving through shallow water where it feeds on prey it uncovers using its armored head and powerful lips.

Much like the terrestrial animal it is named after, the Northern Hogsucker is a messy eater. In fact, the action often attracts other fish like Common Shiners or Smallmouth Bass

that set up downstream of the action and pick off goodies that drift their way.

The Northern Hogsucker is common throughout the Waterville Area in our many large streams and small rivers. Their preferred habitat is near swiftly moving riffles with sand and gravel substrates and for this reason, they are a good indicator of stream health. You won't find them in streams degraded by heavy siltation and/or channelization.

Like most sucker species, they spawn in late spring and the young provide an excellent prey for stream predators like Walleye and Smallmouth Bass. If you're interested in seeing one in person, consider targeting small fish with a seine or dipnet or angling for larger adults with a well-placed worm.

*-Sky Wigen, fisheries specialist*